DUQUESNE LIGHT COMPANY

Beaver Valley Power Station

Unit 2

INSERVICE TESTING (IST) PROGRAM FOR PUMP AND VALVES

Proposed Revision 2B

	Pages Issued	OSC Review Date
K. O. Schrate 2/28/92 Unit Operations Manager Review/Date	1-3	BV-OSC- 9-92 3/5/92
PMoonan 3/8/92 Approved by Date		

This "Proposed Revision" was made against Revision 9 of the present Unit 2 IST Program.

RELIEF REQUEST ___7___

Pump Mark No(s).:

2CHS*P21A	2RHS*P21B	2RSS*P21B	2CCP*P21B	2FWE*P23B
2CHS*P21B	2SIS*P21A	2RSS*P21C	2CCP*P21C	2SWS*P21A
2CHS*P21C	2SIS*P21B	2RSS*P21D	2FWE*P22	2SWS*P21B
2RHS*P21A	2RSS*P21A	2CCP*P21A	2FWE*P23A	2SWS*P21C

Code Test Requirement: The resistance of the system shall be varied until either the measured differential pressure or the measured flow rate equals the corresponding reference value. The other test quantities shown in Table IWP-3100-1 shall then be measured or observed and recorded.

Basis for Relief: Plant conditions may preclude returning a pump to the exact flowrate or same point on the pump curve for each pump surveillance test. Pump flow may either be throttled to approximately the same point on a pump curve or permitted to run at full flow conditions. For those pumps in systems dependent on seasonal temperatures, the flow may be permitted to vary on the pump curve over the pumps normal range of flow values. In either case, delta-P will be calculated and converted to a developed head for which ASME ranges will be applied. IWP-3112 provides for multiple sets of reference values. A pump curve is merely a graphical representation of the fixed response of the pump to an infinite number of flow conditions which are based on some finite number of reference values verified by measurement. Relief is. therefore, requested to use a pump curve, which will provide an equivalent level of quality and safety in trending pump performance and degradation.

Alternate Test: A similar flow condition will be established for each surveillance test (e.g., recirculation flow, normal flow, full flow). A pump curve will be used to compare flowrate with developed head at the flow conditions for each pump listed on Table 1. In addition, each surveillance test will have separate vibration acceptance criteria established for the flow conditions described.

RELIEF REQUEST ___7___

TABLE 1

Pumps	Flow Conditions for Using a Pump Curve and Separate Vibration Acceptance Criteria
2CHS*P21A(B)(C)	A pump curve and separate vibration acceptance criteria will be used during normal flow testing quarterly per 2OST-7.4(5)(6). Flow will be throttled to approximately the same point on a pump curve with specific vibration acceptance criteria applied during full flow testing at refueling per 2OST-11.14.
2RHS*P21A(B)	A pump curve will be used during normal flow testing at cold shutdown and refueling per 2OST-10.1(2). Since normal flow varies due to Reactor Coolant System heat loads and/or Component Cooling and Service Water System requirements due to seasonal Ohio River water temperatures, the most limiting vibration acceptance criteria will be used over this range of flows based on baseline vibration data obtained at various flow points on the pump curve.
2SIS*P21A(B)	Flowrate and delta-P will be measured through a fixed recirculation flow path with specific vibration acceptance criteria applied quarterly per 2OST-11.1(2). A pump curve and separate vibration acceptance criteria will be used during full flow testing at refueling per 2OST-11.14.
2RSS*P21A(B)(C)(D)	A pump curve with specific vibration acceptance criteria will be used during full flow testing thru a test line recirculation flow path at refueling per 2BVT 1.13.5.
2CCP*P21A(B)(C)	A pump curve will be used during normal flow testing quarterly per 2OST-15.1(2)(3). Since normal flow varies based on Component Cooling System requirements due to seasonal Ohio River water temperatures, the most limiting vibration acceptance criteria will be used over this range of flows based on baseline vibration data obtained at various flow points on the pump curve.

RELIEF REQUEST ___7___

TABLE 1 (Continued)

Pumps	Flow Conditions for Using a Pump Curve and Separate Vibration Acceptance Criteria
2FWE*P22	Flowrate and delta-P will be measured at a reference speed through a fixed recirculation flow path with specific vibration acceptance criteria applied monthly per 2OST-24.4. Flow will be throttled to approximately the same point on a pump curve at a reference speed and separate vibration acceptance criteria will be used during full flow testing at cold shutdown and refueling per 2OST-24.4.
2FWE*P23A(B)	Flowrate and delta-P will be measured through a fixed recirculation flow path with specific vibration acceptance criteria applied monthly per 2OST-24.2(3). Flow will be throttled to approximately the same point on a pump curve and separate vibration acceptance criteria will be used during full flow testing at cold shutdown and refueling per 2OST-24.6.
2SWS*P21A(B)(C)	A pump curve will be used during normal flow testing quarterly per 2OST-30.2(3)(6). Since normal flow varies based on Service Water System requirements due to seasonal Ohio River water temperatures, the most limiting vibration acceptance criteria will be used over this range of flows based on baseline vibration data obtained at various flow points on the pump curve.